PRODUCT INFORMATION

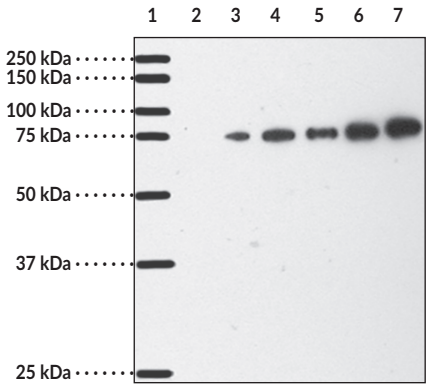
COX-2 (mouse) Polyclonal Antibody (aa 570-598)

Item No. 160106

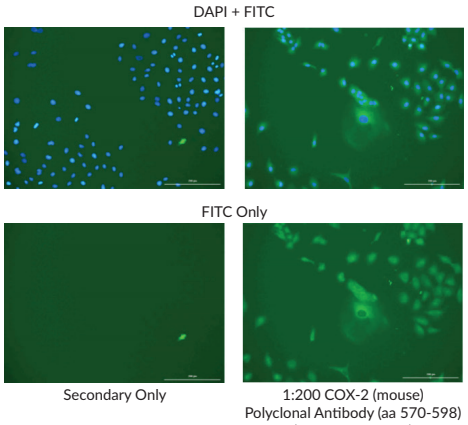
Overview and Properties

Contents:	This vial contains 500 µl peptide affinity-purified polyclonal antibody.
Synonyms:	Cyclooxygenase 2, PGHS-2, Prostaglandin H Synthase 2
Immunogen:	Synthetic peptide from the C-terminal region of mouse/rat COX-2
Cross Reactivity:	(-) COX-1
Species Reactivity:	(+) Human, guinea pig, monkey, mouse, and ovine
Uniprot No.:	Q05769 (mouse)
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	Immunocytochemistry (IC), Immunofluorescence (IF), Immunohistochemistry (IHC), Western blot (WB); the recommended starting dilution for IC and IHC is 1:300 and 1:200 for IF and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Precision Plus Protein Standard
Lane 2: oCOX-1 Electrophoresis Standard (100 ng)
Lane 3: RAW microsomes (5 µg)
Lane 4: RAW microsomes (10 µg)
Lane 5: oCOX-2 Electrophoresis Standard (20 ng)
Lane 6: oCOX-2 Electrophoresis Standard (50 ng)
Lane 7: oCOX-2 Electrophoresis Standard (100 ng)



Immunofluorescence analysis of paraformaldehyde-fixed A549 cells. After incubation with COX-2 (mouse) Polyclonal Antibody (aa 570-598) (Item No. 160106) at a 1:200 dilution (or negative control), cells were incubated with FITC-labeled anti-rabbit IgG (Item No. 10006588), followed by DAPI nuclear stain. Images show FITC alone or both fluorescence channels to highlight nuclear staining (where applicable).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Cyclooxygenase 2 (COX-2) is a bifunctional enzyme that exhibits both COX and peroxidase activities and catalyzes the first step in the biosynthesis of prostaglandins, thromboxanes, and prostacyclins.[1,2] The COX component converts arachidonic acid to the hydroperoxy endoperoxide prostaglandin G_2 (PGG_2; Item No. 17010), and the peroxidase component reduces the endoperoxide to the corresponding alcohol PGH_2 (Item No. 17020). *COX2* expression is induced by a variety of stimuli, including phorbol esters, LPS, and cytokines and is responsible for the biosynthesis of PGs under acute inflammatory conditions.[3,4] Thus, COX-2 has been the focus of attention for nonsteroidal anti-inflammatory drug (NSAID) development. Cayman's COX-2 (mouse) Polyclonal Antibody (aa 570-598) can be used for immunocytochemistry (ICC), immunofluorescence (IF), immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes a unique C-terminal region of COX-2 that is not present in COX-1, specifically detecting COX-2 at 72 kDa from human, guinea pig, monkey, mouse, and ovine samples.

References

1. Nugteren, D. H. and Hazelhof, E. Isolation and properties of intermediates in prostaglandin biosynthesis. *Biochim. Biophys. Acta* **326(3)**, 448-461 (1973).
2. Hamberg, M. and Samuelsson, B. Detection and isolation of an endoperoxide intermediate in prostaglandin biosynthesis. *Proc. Natl. Acad. Sci. USA* **70(3)**, 899-903 (1973).
3. Kang, J.G. and Park, C.-Y. Anti-obesity drugs: A review about their effects and safety. *Diabetes Metab. J.* **36(1)**, 13-25 (2012).
4. Blobaum, A.L. and Marnett, L.J. Structural and functional basis of cyclooxygenase inhibition. *J. Med. Chem.* **50(7)**, 1425-1441 (2007).

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